



Difficulties in the Area



Morshed Kassouha

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D.V.M (parasitology), Fac. Vet. Med.,
Hama University





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Syria
Capital:
Damascus



SYRIA

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TURKEY

Euphrates Ataturk Baraji

Tigris

Adana

Gaziantep

Şanlıurfa

Mersin

Iskenderun

Amik Gölü

Antakya

'Afrin

Halab (Aleppo)

Al Lādhiqiyah (Latakia)

Al Haffah

Baniyeh

Jartus

Safita

Hims (Homs)

Tall Kalakh

Tripoli

Beirut

Az Zabadani

Al Qutayfah

Shaykh Miskin

Al Qunayfrah

Haifa

Nazareth

Irbid

Az Zarqā'

JORDAN

Euphrates

Ataturk Baraji

Tigris

Şanlıurfa

Jarabulus

Al Bab

Halishah

As Safirah

Jabul al-Hass

As Suwayrah

Maskanah

Ar Raqqah

Madīnat ath Thawrah

Hamāh

HIMS

Tadmur

As Sukhnah

Bādiyat ash Shām

DIMASHQ (DAMASCUS)

Bahr Sayqal

Al Basiri

Sob' Abar

Al Tanf

As Sanamayn

Izra'

Shahba

As Suwaydā'

Salkhad

Baqra ash Sham

Imtan

Euphrates

Ataturk Baraji

Tigris

As Suwayrah

Maskanah

Ar Raqqah

Madīnat ath Thawrah

Ash Shaykh Ibrahim

Khirbat Isriyah

As Sukhnah

Bādiyat ash Shām

DIMASHQ

(Syrian Desert)

Euphrates

Ataturk Baraji

Tigris

As Suwayrah

Maskanah

Ar Raqqah

Madīnat ath Thawrah

Ash Shaykh Ibrahim

Khirbat Isriyah

As Sukhnah

Bādiyat ash Shām

DIMASHQ

(Syrian Desert)

Euphrates

Ataturk Baraji

Tigris

As Suwayrah

Maskanah

Ar Raqqah

Madīnat ath Thawrah

Ash Shaykh Ibrahim

Khirbat Isriyah

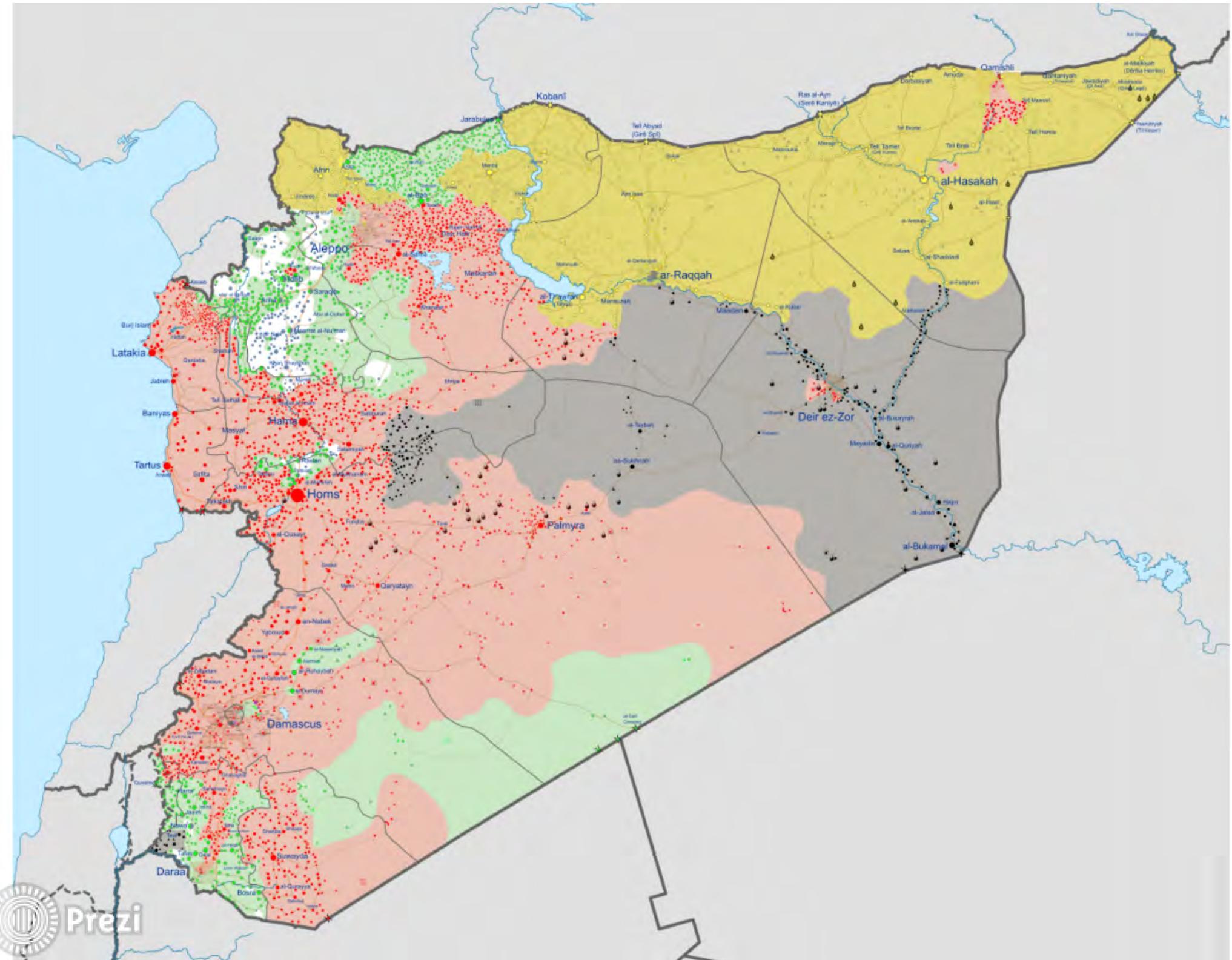
As Sukhnah

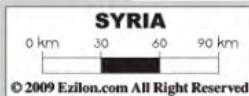
Bādiyat ash Shām

DIMASHQ

(Syrian Desert)

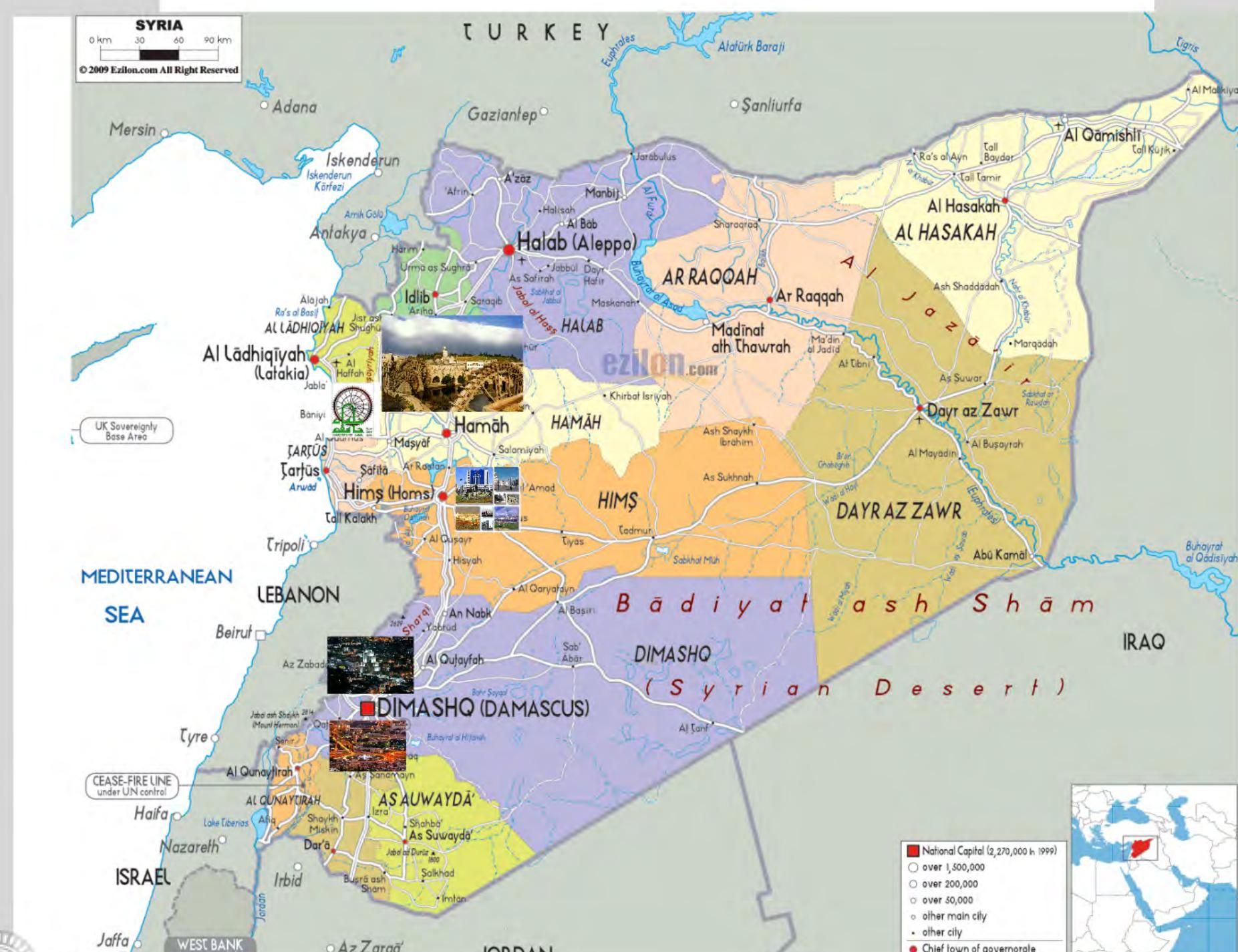
Bādiyat





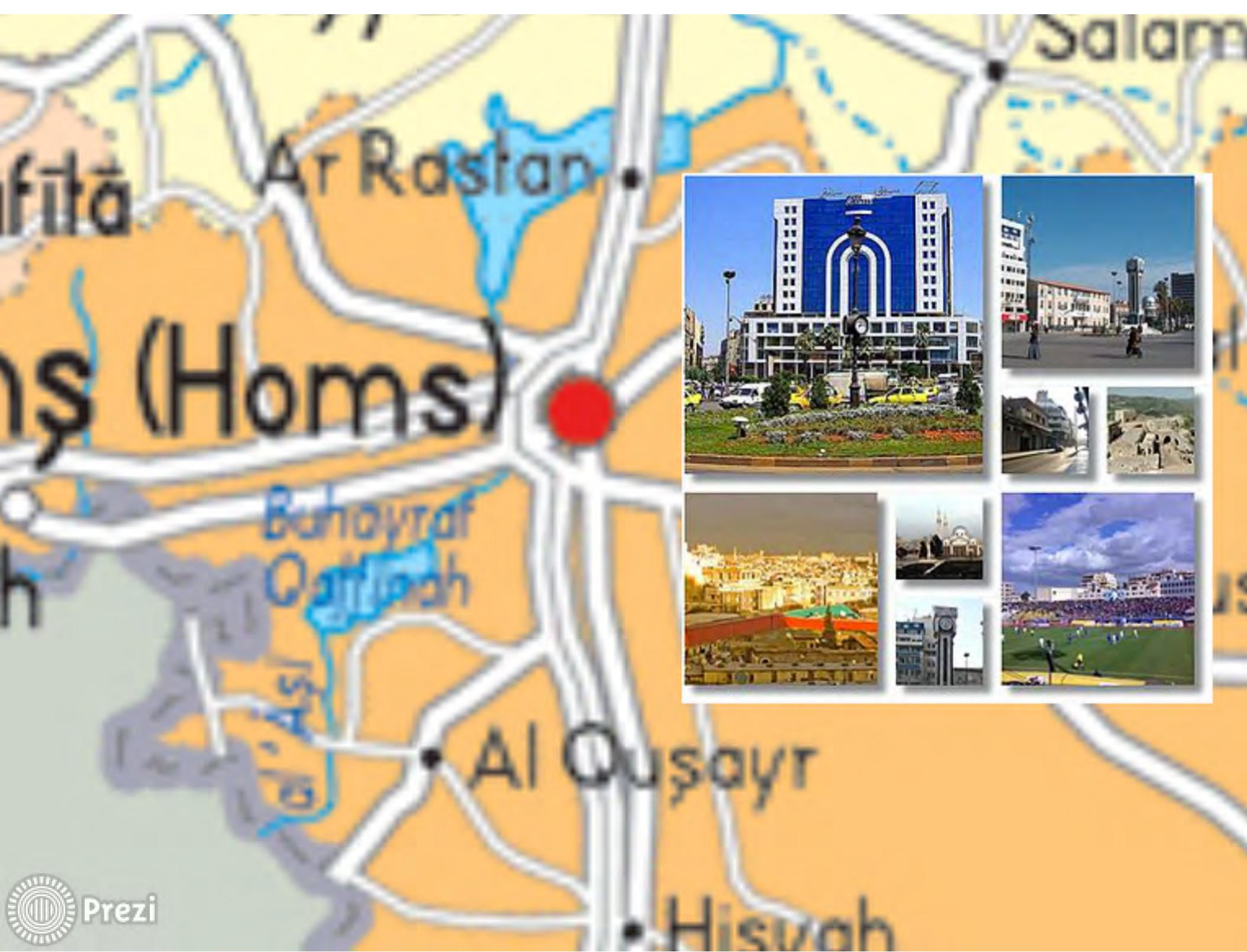
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TURKEY

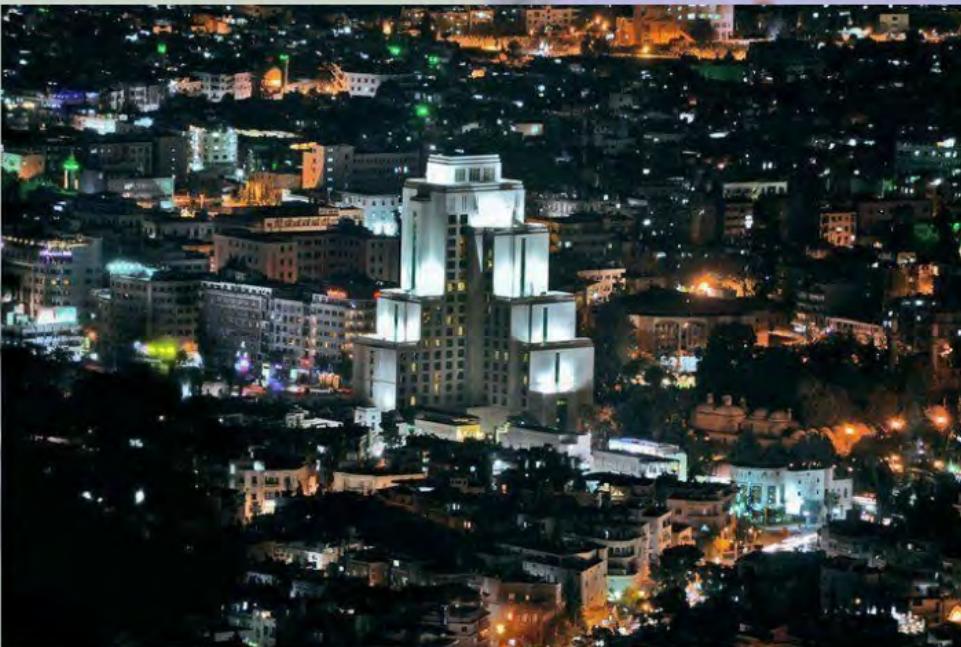


- National Capital (2,270,000 in 1999)
- over 1,500,000
- over 200,000
- over 50,000
- other main city
- other city
- Chief town of governorate





Az Zabada



A Qutayf

DIMASHQ

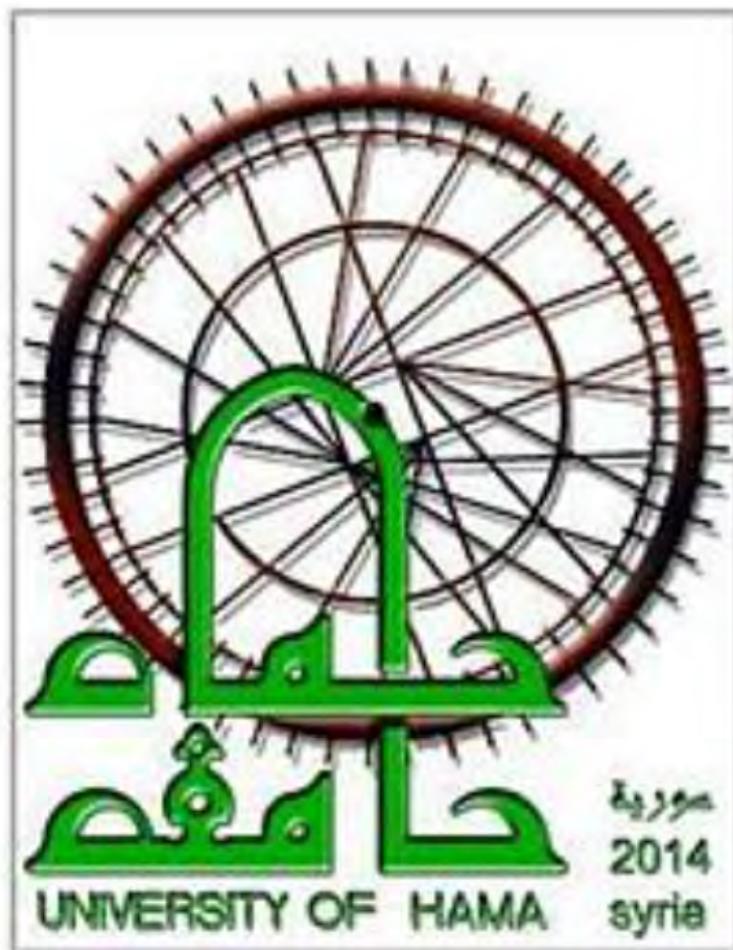
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Qat

Buhayrat al Hij







Faculty of Veterinary Medicine



Researches

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Parasitology
Biochemistry
Internal Medicine
Surgery
Infectious Diseases
Poultry Diseases
Nutrition and Animal Husbandry
Health,.....etc.



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- Training*



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**WAR
Crisis**

Researches

Microbiology
Parasitology
Biochemistry
Internal Medicine
Surgery
Infectious Diseases
Poultry Diseases
Nutrition and Animal Husbandry
Health,.....etc.



teaching undergraduate Students

Vet. Med. and all Medical faculties in
Hama University





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Faculty of Veterinary Medicine



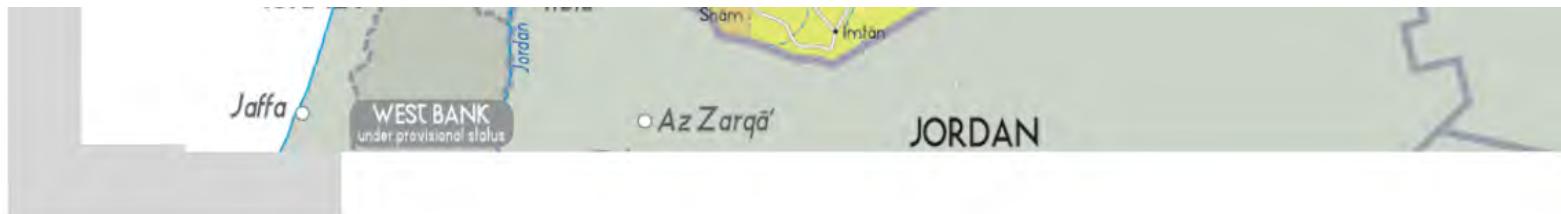


my lab.

Departement of Microbiology Parasitology Lab.







Damascus University- Faculty of sciences- Dep. of Biology- Immunology and Molecular biology Lab



Molecular biology Lab



Faculty of Veterinary Medicine

Department of Microbiology

Vol XCIII, No. 311

Monday, July 23, 2017

\$1.25

Detection and Classification of Animal Parasites



Helminthes and Protozoa



Immunological



Microbiology



Diagnostic services for animal owners



Cryptosporidium



Question 1 ????????



Department of Microbiology

Vol XCIII, No. 311

Monday, July 23, 2017

Detection and Classification of Animal Parasites



Helminthes and Protozoa

Syrian Arab Republic
Al-Baath University
Faculty of Veterinary Medicine
Department of Microbiology



Prevalence Of Gastro-Intestinal Helminthes of Camels In Syria

Thesis presented
By

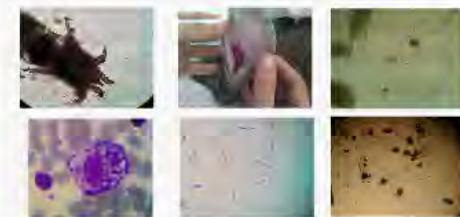
Morshed Adnan Kassouha
post-Dipl.Vet.Med (D.V.M)
for
Master Degree In Vet. Med. Sci.
(parasitology)

Under The Supervision Of

Prof. Abdulkarim Al-khaled
Prof. of parasitology

Prof. Abdulrazzak El-moukdad
Prof. of parasitology

Diagnostic services
animal owners



Cryptosporidiosis



Question 1 ????????

Helminthes and Protozoa

*Syrian Arab Republic
Al-Baath University
Faculty of Veterinary Medicine
Department of Microbiology*



Prevalence Of Gastro-Intestinal Helminthes of Camels In Syria

Thesis presented
By

Morshed Adnan Kassouha

*post-Dipl.Vet.Med (D.V.M)
for*

Master Degree In Vet. Med. Sci.

FIRST DETECTION OF CRYPTOSPORIDIUM spp. IN BROILER CHICKENS IN SYRIA



Morshed Kassouha

Department of Microbiology, College of Veterinary Medicine,
University of Hama ,Hama, Syria.

(Received 17 December 2013 ,Accepted 29 december 2013)

Key words: *Cryptosporidium* - chicken - Syria .

ABSTRACT

Fifty nine samples of feces were collected from broiler flocks farms located in Hama and Aleppo provinces of Syria, which suffered from diarrhea or respiratory problem or both. For the first time, this study confirmed the infection of the broiler flocks with *Cryptosporidium* in Syria with a rate of 8.4%. The infection has been demonstrated by detecting the *Cryptosporidium* oocysts in the fecal by using direct smear method and Formol-Ether concentration method, then stained by Kinyoun acid fast stain.

The result of tests based on morphology and size of *Cryptosporidium* oocysts showed that the parasite is probably *C. baileyi* which ranged between (6 $\mu\text{m} \times 4 \mu\text{m}$).

This study showed a difference in the percentages of infection according to the methods in which *Cryptosporidium* oocysts has been detected, as the Formol-Ether method detected the oocysts in 8.4% of all samples, while the direct smear method detected the oocysts in 6.7%.

انتشار الكيسات العدارية عند الأغنام العواس المذبوحة في المسالخ الفنية في سوريا

Prevalence of Hydatid cysts in Slaughtered Awassi Sheep at Abattoirs in Syria

عبد النعم الياسين⁽¹⁾ ، و عبد الحفيظ كروالي⁽²⁾

غير صحة حيوان - المركز العربي لدراسات المناطق الجافة والاراضي القاحلة (اكساد)، صرب، 2440، دمشق سورية، البريد الالكتروني: a.yasin@acsad.org

.

في المركز العربي للمناطق الجافة والاراضي القاحلة - دكتوراه في تغذية الحيوان.

المؤلف

الكيسات العدارية مرض طفيلي مشترك واسع الانتشار في العالم لاسيما منطقة البحر الأبيض المتوسط. وتشكل الكيسات العدارية الصدور المزبونة بطيئة الشوككة الحبيبية.

في إطار هذه الدراسة 6444 ذبيحة (3644 ≤ سنة و 2800 > سنة) بالمعايير البصرية والحسبية والجنس باليد وفتح الكيسات في كل من الكبد

حديد نوعها، في ثمانية مسالخ لثمانية محافظات بهدف تقدير انتشار الكيسات العدارية في الأغنام السورية، ودراسة واقع المسالخ وعلاقتها في انتشار

النتائج ان نسبة الإصابة بالكيسات العدارية في خراف الذبح التي يقل عمرها عن سنة بلغت 4.58 %، وهي أقل تكراراً وأهمية منها بالمقارنة

بتقدمة في العمر، وكانت الكيسات صغيرة وأغلبها بحجم حبة العدس مما يجعل الإصابة خفيفة وليس لها أي تأثير على انتشار المرض، أما

التقدمة في العمر فقد بلغت نسبة الانتشار في جميع المحافظات المدروسة 49.2 %، وختلفت نسبها حسب مكان تواجدها على الكبد والرئتين

انت نسبة الكيسات النموذجية 15.96 % في الكبد فقط، و 21.04 % في الرئتين فقط، و 47.68 % في الكبد والرئتين معاً، في حين كانت

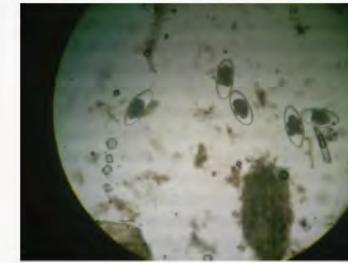
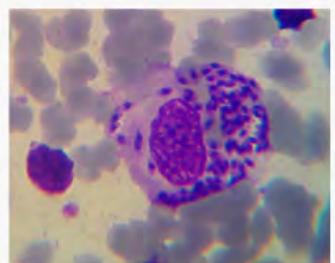
نسبة الكيسات المتكلسة أو التجينية 2.97 % في الكبد فقط و 1.60 % في الرئتين فقط، و 5.08 % في الرئتين والكبد، في حين كانت نسبة الكيسات

في الكبد والمتكلسة أو التجينية في الرئتين 2.03 %، أما نسبة الكيسات النموذجية في الرئتين والمتكلسة أو التجينية في الكبد فبلغت 3.48 %.

وبالانتشار عاليه في محافظات حلب ودمشق ودمشق تم ريف دمشق (62.2% على التوالي)، ومنخفضة نسبة حماة والرقعة والحسكة تم دير الزور (52.0% على التوالي)، وتباينت نسب الانتشار بين المحافظات وكانت

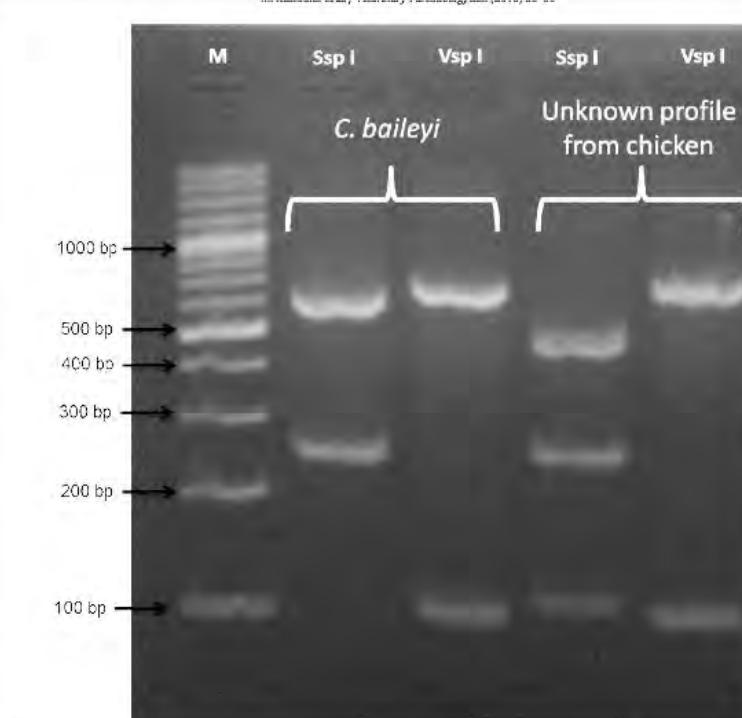
نوعية إحصائيات بمجموعات مختلفة.

Diagnostic services for animal owners

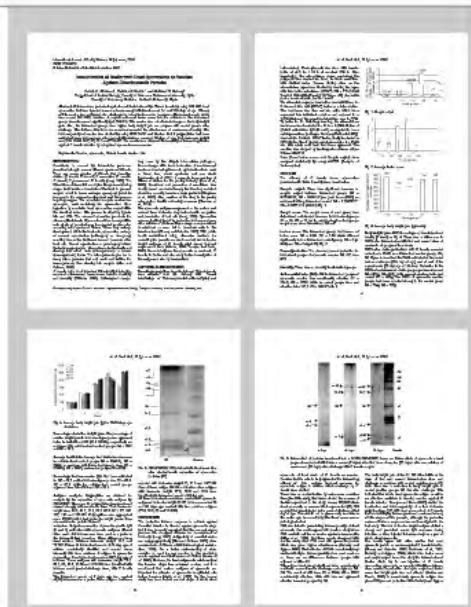




Cryptosporidium



Immunological



Microbiology

Syrian Arab Republic
Al-Harath University
Faculty of Veterinary Medicine
Department of Microbiology



Isolation And Classification Of Aspergillus And
Study Of Histopathological Effects On Tissues In
Broiler Chicken

Thesis Presented by
Fouad Al-Damad
Msc. Vet. Med. (D.V. M.) Microbiology

For
Doctorate Degree In Vet. Med. Sc
Microbiology

Under the supervision of

Assistant Prof. Dr.
Ahmad Hamdi Mokresh
Assistant supervisor
Department of Parasitology

Assistant Prof. Dr.
Ibrahim Riffai
Scientific supervisor
Department of Microbiology

2011





طفرات على وسط أغوار المقطرات (x60)



Syrian Arab Republic
Al-Baath University
Faculty Of Veterinary Medicine
Department Of Microbiology

Bacteriological and molecular study of mycoplasma infections in chickens in Syria

Thesis Presented by

Hamid Ali Nagi ALREFAIE

Msc. Vet. Med. (D .V. M.) Microbiology

For

Doctorate Degree in Vet. Med. Sc.

Microbiology

Under the supervision of

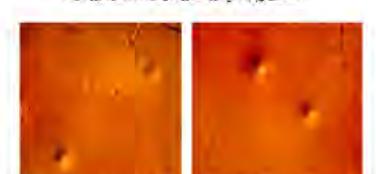
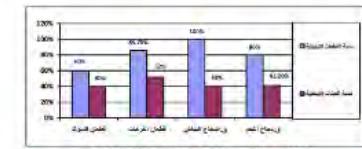
Prof. Dr. Samer kamel Ibrahim

Scientific supervision

Dep. of Microbiology-vet. Med. faculty-ALbaath.Univ.

2014

جدول رقم (14) نتائج على المقطرات من عيوب الطيور التي تم اكتشافها						
العين	النوع	النوع	النوع	النوع	النوع	النوع
%401	6	15	7401	5	8	نورك
%52	11	25	%45.5	6	7	فريمات
%40	6	15	%100	5	6	لسان حمراء
%44.2	14	34	%30	4	5	الثدي الحمراء
%47.6	39	89	%41.6	18	22	المصفرة



صورة رقم (13) نتائج المقطرات المجهولة على وسط فير الصبل من العيوب المكتسبية (ن=50 عينة)

Accepted: 2016
Published: 2016
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1. Introduction

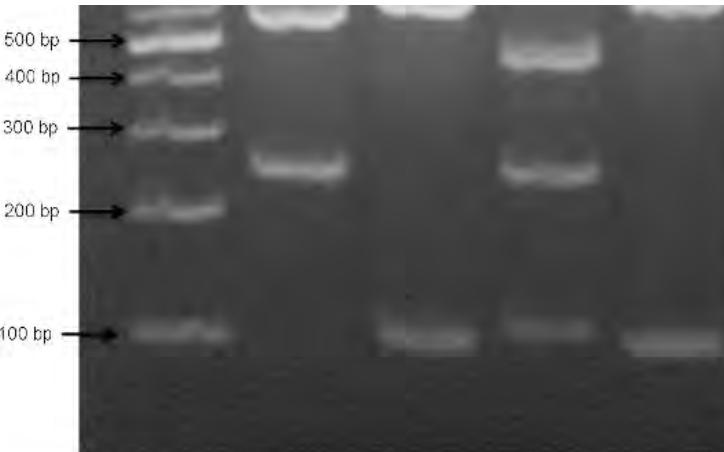
Protozoan parasites of the Cystoisosporidae cause intestinal infections in humans, animals, and plants. These infections are usually asymptomatic, but can cause significant disease in immunocompetent individuals. Most human cryptosporidiosis cases are caused by one of the three Cryptosporidium species: *C. hominis*, *C. parvum*, or *C. meleagridis*. *C. hominis* is the most common cause of cryptosporidiosis in humans. It is a significant cause of diarrhoeal disease in both developing and industrialized countries [Gutierrez et al., 2002]. *C. hominis* and *C. parvum* are also important causes of cryptosporidiosis in the majority of human infections [Huang et al., 2013].

Some worldwide suggestion could be the intestinal parasite *C. hominis* and *C. parvum* (previously called *C. hominis*-like genotype). Some studies have shown a host specificity amongst *C. parvum* preferring to grow in avian hosts, while *C. hominis* prefers to grow in mammalian hosts [Coutinho et al., 2008].

The avian wild *Cryptosporidium* isolates infect various birds and mammals, including humans [Coutinho et al., 2008]. Some *C. parvum* isolates from chicken manure found in three clinical presentations: respiratory disease, enteritis, diarrhoea, and the

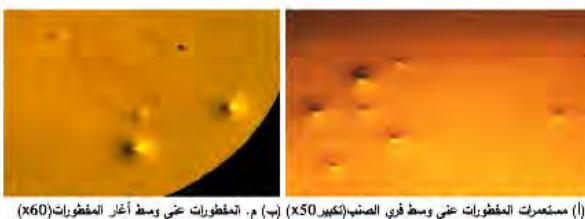
* Corresponding author:
Email address: mohamed.ayman@syu.edu.sa (M. Ayman).

Article history:
Received: 2015-09-01
Revised: 2016-01-01
Accepted: 2016-02-01
Published: 2016-02-01



Question 1 ????????

التابع



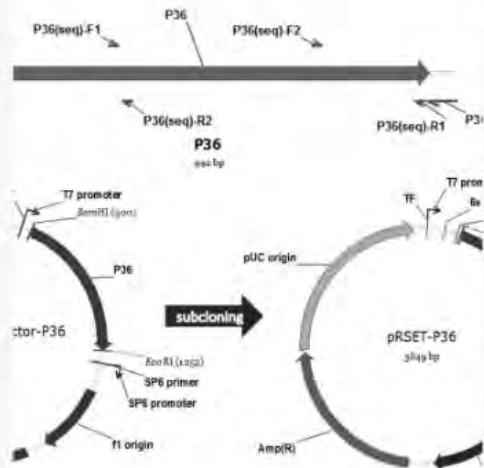
Damascus university- Faculty of sciences- Dep. of Animal Biology

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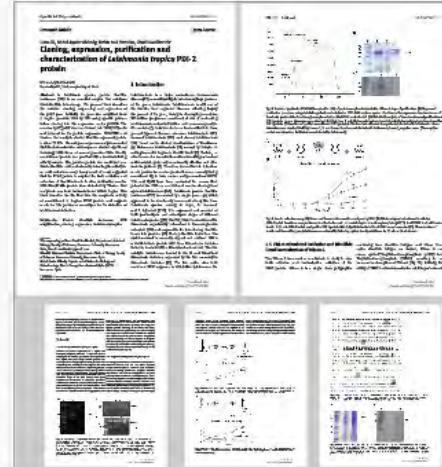
Monday, July 24, 2017

\$5.25

Headline 1



DNA Vaccines & Recombinant Proteins



Headline 2 Attenuated Vaccines



Headline 3 Oils and Plant Extracts for treatment

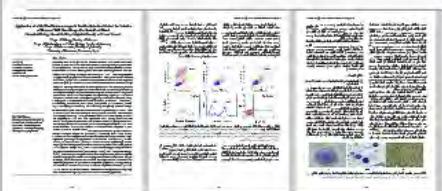


Question 2
How to control Leishmaniasis in Syria?

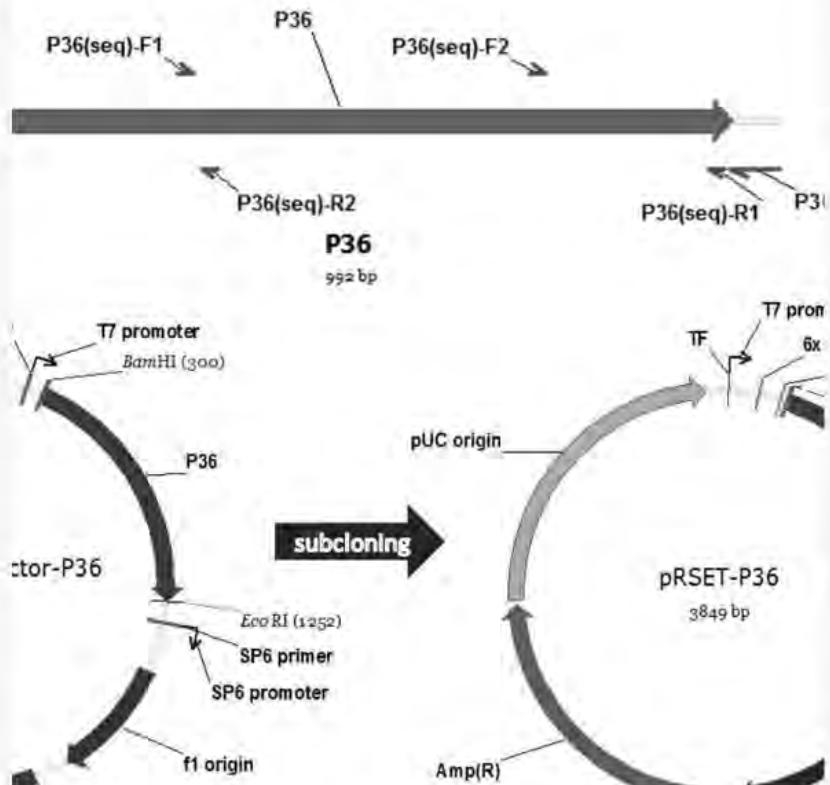
Giardia



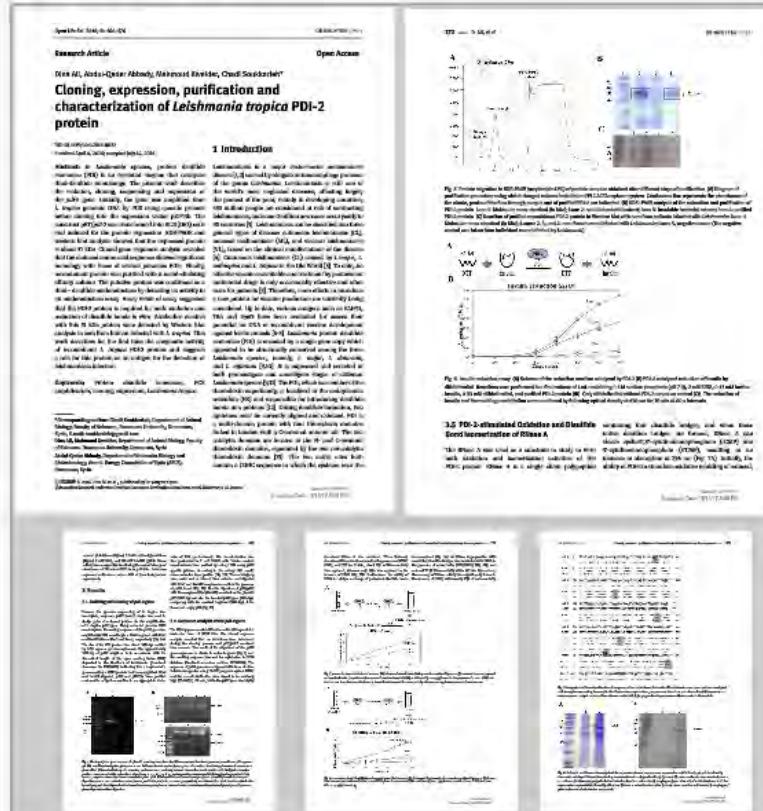
Headline 4 Stem cells



Headline 1



DNA Vaccines & Recombinant Proteins



DNA Vaccines & Recombinant Proteins

Open Life Sci. 2016; 11: 166–176

DE GRUYTER OPEN

Research Article

Open Access

Dina Ali, Abdul-Qader Abbady, Mahmoud Kweider, Chadi Soukkarieh*

Cloning, expression, purification and characterization of *Leishmania tropica* PDI-2 protein

DOI 10.1515/bio-2016-0022

Received April 4, 2016; accepted July 14, 2016

Abstract. In *Leishmania* species, protein disulfide isomerase (PDI) is an essential enzyme that catalyzes thiol-disulfide interchange. The present work describes the isolation, cloning, sequencing and expression of the *pdi-2* gene. Initially, the gene was amplified from *L. tropica* genomic DNA by PCR using specific primers before cloning into the expression vector pET-15b. The construct pET/pdi-2 was transformed into BL21(DE3) cells and induced for the protein expression. SDS-PAGE and western blot analysis showed that the expressed protein is about 51 kDa. Cloned gene sequence analysis revealed that the deduced amino acid sequence showed significant homology with those of several parasites PDIs. Finally, recombinant protein was purified with a metal-chelating affinity column. The putative protein was confirmed as a thiol - disulfide oxidoreductase by detecting its activity in an oxido-reductase assay. Assay result of assay suggested that the PDI-2 protein is required for both oxidation and reduction of disulfide bonds *in vitro*. Antibodies reactive with this 51 kDa protein were detected by Western blot analysis in sera from human infected with *L. tropica*. This work describes for the first time the enzymatic activity of recombinant *L. tropica* PDI-2 protein and suggests a role for this protein as an antigen for the detection of leishmaniasis infection.

Key words: Protein disulfide isomerase, PCR amplification, cloning, expression, *Leishmania tropica*.

1 Introduction

Leishmaniasis is a major vector-borne metazoonosis disease [1,2] caused by obligate intramacrophage protozoa of the genus *Leishmania*. Leishmaniasis is still one of the world's most neglected diseases, affecting largely the poorest of the poor, mainly in developing countries; 350 million people are considered at risk of contracting leishmaniasis, and some 2 million new cases occur yearly in 88 countries [3]. Leishmaniasis can be classified into three general types of disease: cutaneous leishmaniasis (CL), mucosal leishmaniasis (ML), and visceral leishmaniasis (VL), based on the clinical manifestations of the disease [4]. Cutaneous leishmaniasis (CL) caused by *L. major*, *L. aethiopica* and *L. tropica* in the Old World [3]. To date, no effective vaccine is available and treatment by pentavalent antimonial drugs is only occasionally effective and often toxic for patients [5]. Therefore, more efforts to introduce a new protein for vaccine production are currently being considered. Up to date, various antigens such as KMP11, TSA and Gp63 have been evaluated for assess their potential for DNA or recombinant vaccine development against leishmaniasis [6-8]. *Leishmania* protein disulfide isomerase (PDI) is encoded by a single gene copy which appeared to be structurally conserved among the three *Leishmania* species, namely, *L. major*, *L. donovani*, and *L. infantum* [9,10]. It is expressed and secreted at both promastigote and amastigote stages of different *Leishmania* species [9,11]. The PDI, which is a member of the thioredoxin superfamily, is localized in the endoplasmic reticulum (ER) and responsible for introducing disulfide bonds into proteins [12]. During disulfide formation, two

172 — D. Ali, et al.

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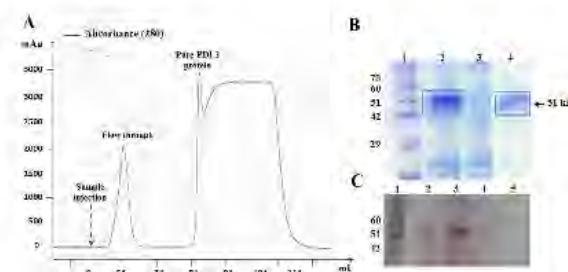


Fig. 5. Protein migration in SDS-PAGE (acrylamide 12%) of protein samples obtained after different steps of purification. (A) Diagram of purification procedure using nickel charged column installed on FPLC AKTA explorer system. Continuous line represents the absorbance of the eluate; peaks of the flow through sample and of purified PDI-2 are indicated. (B) SDS-PAGE analysis of the extraction and purification of PDI-2 protein. Lane 1- Molecular mass standard (in kDa); Lane 2- soluble bacterial extract; lane 3- insoluble bacterial extract; lane 4- purified PDI-2 protein. (C) Reaction of purified recombinant PDI-2 protein in Western blot with sera from patients infected with *Leishmania*; Lane 1- Molecular mass standard (in kDa); Lanes: 2, 3, and 4- sera from human infected with *Leishmania*; Lane 5- negative serum (The negative control was taken from individual never infected by *Leishmania*).

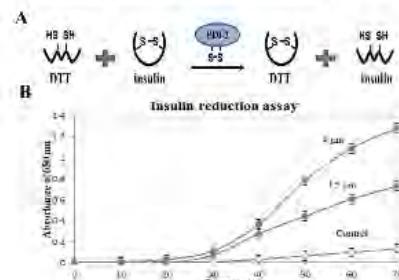


Fig. 6. Insulin reduction assay. (A) Scheme of the reduction reaction catalyzed by PDI-2 (B) PDI-2-catalyzed reduction of insulin by dithiothreitol. Reactions were performed in a final volume of 1 mL containing 0.1 M sodium phosphate (pH 7.0), 2 mM EDTA, 0.13 mM bovine insulin, 0.33 mM dithiothreitol, and purified PDI-2 protein (●). Only dithiothreitol without PDI-2 served as control (○). The reduction of insulin and its resulting precipitation were monitored by following optical density at 650 nm for 70 min at 60 s intervals.

Headline 2

Attenuated Vaccines



www.sphinxsai.com

International Journal of PharmTech Research

CODEN (USA): IJPRIF, ISSN: 0974-4304
Vol.8, No.4, pp 595-601, 2015

**Effect of inhibitor protein kinase A (PKA) on
Leishmania tropica promastigotes viability, infectious ability
and differentiation**

Mohamed Anas AL Moalem*, Chadi Soukkarieh, Mahmoud Kweider

Headline 3



Prez

Headline 3

Oils and Plant Extracts for treatment

International Journal of ChemTech Research
CODEN (USA): IJCTRG ISBN: 0974-4290
Vol.6, No.8, pp. 53-60, 2015

www.sphmusa.com

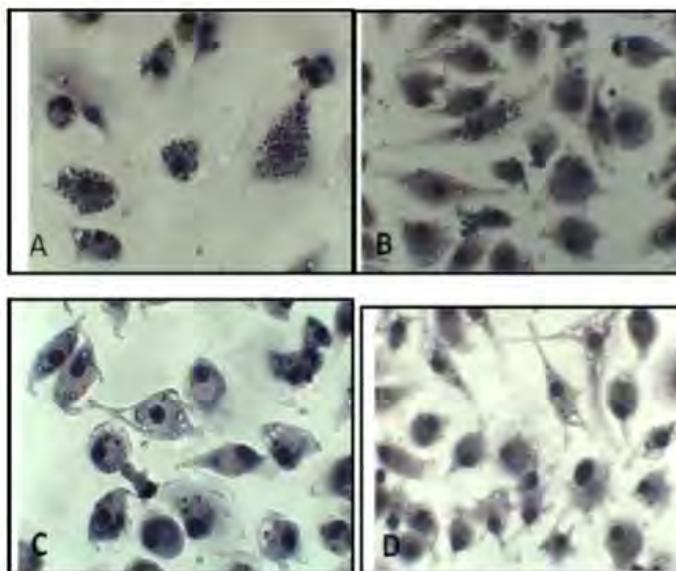
Composition, *in Vitro* Antioxidant and Antileishmanial activities of *Vitex agnus-castus* L. and *Thymus syriacus* Boiss. Essential Oils

Faten Al Saka^{1*}, Francois Karabet¹, Manal Daghestani¹,
Chadi Soukkarieh²

¹Damascus University, Faculty of Sciences, Department of Chemistry,
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Damascus, Syria.

Abstract: The essential oils represent valuable sources for active molecules against *Leishmania* infections and natural antioxidant. In this present study, essential oils from fruits of Syrian *Vitex agnus-castus* L. (VAC), and leaves of *Thymus syriacus* Boiss. (TS) were analyzed by gas chromatography-mass spectrometry. The main constituents found in VAC essential oil were 1,8-Cineole (14.25%) and Sabinene (11.54%), while the major constituents in TS essential oil were thymol (40.61%) and *p*-Cymene (29.40%). The antioxidant activity of the essential oils were determined by their scavenging effect on 2,2-diphenyl-1-picrylhydrazyl and total phenolic contents. The results showed that antioxidant activity of TS essential oil was higher than VAC. The antileishmanial activity of VAC essential oil against *L. tropica* was biological activity, of both VAC and TS essential oils, against *L. tropica* was determined using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide, and The IC₅₀'s values were 211.62 µg/ml and 101.08µg/ml, respectively. Therefore, further work is needed to identify the compound(s) responsible for the effects of VAC and TS essential oils and their correlation with *in vivo* studies.

Keywords: *Vitex agnus-castus* L.; *Thymus syriacus* Boiss.; essential oil; antioxidant activity; *Leishmania*.





Giardia duodenalis in Damascus, Syria: Identification of *Giardia* genotypes in a sample of human fecal isolates using polymerase chain reaction and restriction fragment length polymorphism analyzing method

Dania Skhal, Ghalia Aboualchamat, Samar Al Nahhas*

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ABSTRACT

Giardia duodenalis is a common gastrointestinal parasite that infects humans and many other mammals. It is most prevalent in many developing and industrialized countries. *G. duodenalis* is considered to be a complex species. While no morphological distinction among different assemblages exists, it can be genetically differentiated into eight major assemblages: A to H. The aim of this study was to determine the genetic heterogeneity of *G. duodenalis* in human isolates (a study conducted for the first time in Syria). 40 fecal samples were collected from three different hospitals during the hot summer season of 2014. Extraction of genomic DNA from all *Giardia* positive samples (based on a microscopic examination) was performed using QIAamp DNA Stool Mini Kit. β -giardin gene was used to differentiate between different *Giardia* assemblages. The 514 bp fragment was amplified using the Polymerase Chain Reaction method, followed by digestion in *Hae*II restriction enzyme. Our result showed that genotype A was more frequent than genotype B, 27/40 (67.5%); 4/40 (10%) respectively. A mixed genotype of A+B was only detected in 9 isolates (22.5%). This is the first molecular study performed on *G. duodenalis* isolates in Syria to discriminate among the different genotypes. Further expanded studies using more genes are needed to detect and identify the *Giardia* parasite at the level of assemblage and sub-assemblage.

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1. Introduction

Giardia is the most common of intestinal parasites worldwide. It is estimated that in developing countries, where poor levels of hygiene, sanitation, and overcrowding enhance *Giardia* transmission, about 200 million individuals develop symptomatic giardiasis and 500,000 new cases are reported each year [WHO 1996; Adam 2001]. *Giardia* genus comprises of six species: *G. duodenalis* (syn: *G. intestinalis* or *G. lamblia*), *G. muris*, *G. microti*, *G. agilis*, *G. psittaci*, and *G. ardeae* (Adam 2001).

Giardia duodenalis has a variety of mammalian hosts including humans (Gardner and Hill 2001). It is transmitted to individuals via fecal-oral route by direct contact or by ingestion of resistant cysts from contaminated food or water (Karants et al., 2007). The clinical

manifestations of giardiasis vary between asymptomatic infection to severe diarrhoeal illness with or without mal-absorption, weight loss, and abdominal cramps (Gardner and Hill, 2001).

Conventional diagnostic methods are used widely in many laboratories for the detection of *Giardia* cysts or trophozoites in stool samples using a light microscope (Adam, 1991). However, these methods are of low sensitivity, time consuming, and require microscopic experience. In addition, the identification of *G. duodenalis* genotypes is not possible using these simple methods, due to its morphological homogeneity (Amar et al., 2002).

Recently, a variety of molecular techniques, such as PCR-based diagnostic system, PCR-RFLP, cloning and sequencing analysis of a specific set of *Giardia* genes [glutamate dehydrogenase (*gdh*); triosephosphate isomerase (*tpi*); elongation factor 1 alpha (*efl*); beta giardin (*bg*) and 18S RNA genes] proved to be sensitive, powerful, and specific analytical tools for detection of *Giardia* parasites in stool samples as well as for genotyping this complex parasite (Caccio et al., 2002; Wielinga and Thompson, 2007; Sprong et al., 2002; Soliman et al., 2011; Torres-Romero et al., 2014). By means



Fig. 2. PCR-RFLP assay (3% agarose gel electrophoresis) of the β -giardin gene products after restriction of the polymorphic region with *Hae*II restriction enzyme. (a) Lane 1: undigested β -giardin gene products, Lanes 2,3,5: assemblage A, Lane 4: assemblage B, M: molecular marker (100bp). (b) Lane 1: undigested β -giardin gene products, Lanes 2-3: mixed assemblages A+B, M: molecular marker (50bp).

Table 2

The PCR-RFLP profile of *G. duodenalis* genotypes after digesting with *Hae*II enzyme.

Assemblages	No. cases (%)	Fragments size
A	27 (67.5%)	200, 150, 117-113, 50 bp
B	4 (10%)	150, 117-113, 84, 26-24 bp
A+B mixed	9 (22.5%)	200, 150, 117-113, 84, 50, 26-24 bp

3. Results

Microscopic analysis of the 40 human stool samples confirmed *Giardia* infection. Cysts and/or trophozoites were observed in all fecal isolates after staining by Lugol's iodine.

Of the 40 giardiasis cases, 19/40 were females and 21/40 were males. Patients were comprised of 25 children (4 months to 10 years of age), 11 adolescents (11 to 15 years old) and 4 adults (16 years and up) (Table 1).

In addition, our data reported the presence of mild pasty diarrhea as a common clinical symptom, accompanied with growth disturbance, weight loss, and mal-absorption. Only 4 positive giardiasis cases presented foamy diarrhea.

PCR amplification of a fragment from β -giardin gene yielded the expected size which was approximately 514 bp from all isolates (Fig. 1). Our results showed different restriction patterns from fecal isolates belonging to assemblages A, B, and A+B mixed (Fig. 2a-b).

Among the fecal isolates, 27/40 (67.5%) cases were identified as assemblage A, which was defined by the presence of DNA bands at 200, 150, 113 and 50 bp. Whereas assemblage B, which generated DNA bands at 150, 117-113, 84, 26-24 bp, was found in very few samples 4/40 (10%). Finally, the genotype A+B was detected in 9/40 (22.5%) of fecal samples (Table 2).

4. Discussion

Giardiasis is a common cause of diarrheal disease in almost all vertebrates, including humans. It is widely spread in developing countries (Thompson, 2000; Tak et al., 2014).

(Mohammed Mahdy et al., 2009; El Fattah et al., 2014). Previous reports suggested that the reasons for high prevalence of giardiasis among the age group of 1–15 years old may be because they are easily exposed to contaminated water or for their lack of immunity (Karanis et al., 2007).

Microscopic detection of *Giardia* (cysts and/or trophozoites) in fecal samples is a traditional diagnostic method for giardiasis (Adam, 1991). However, this method is time-consuming, requires experienced microscopists, and is unable to distinguish between genetically distinct *G. duodenalis* isolates (Amar et al., 2002).

PCR-RFLP is a molecular sensitive tool and it is capable of distinguishing human isolates of *G. duodenalis* at the genotype level (Monis et al., 1995; Caccio et al., 2002; Lille et al., 2005).

In this study, we used PCR-RFLP to distinguish between *Giardia* assemblages using β -giardin gene. This gene was used as a target for molecular identification of *Giardia*. The advantage of using giardin genes is that they are considered to be unique to this parasite (Faubert, 2010). The giardin proteins (29–38 kDa) are defined as a family of structural proteins. They are found at the edges of dorsal ribbons, which are an integral part of the ventral disk of the trophozoite (Adam, 2001).

Our results showed that the nested β -giardin amplification product yielded the expected fragment from all isolates, which is 100% consistent with our microscopic detection. Furthermore, genotyping analysis reported the presence of *G. duodenalis* assemblages A, B, and a mixed genotype A+B at different rates.

Among 40 fecal isolates, assemblage A was the most frequent genotype detected (67.5%), while assemblage B was less detected (10%). These results are in agreement with previous studies conducted in Egypt (75.5% A, 19.5% B, n=41, Helmy et al., 2009), Saudi Arabia (57.5% A, 37.5% B, n=40, Feng and Xiao 2011), Ethiopia (52% A, 22% B, n=59, Gelaneew et al., 2007), Italy (80% A, 20% B, n=30, Caccio et al., 2002), Brazil (78.4% A, 21.6% B, n=35, Souza et al., 2007), and Thailand (71.4% A, 23.3% B, n=35, Traub et al., 2009). However, several studies conducted in India (Sulaiman et al., 2003), United Kingdom (Amar et al., 2002), United States (Guy et al., 2004) and Nepal (Singh et al., 2009) indicated that assemblage B was more

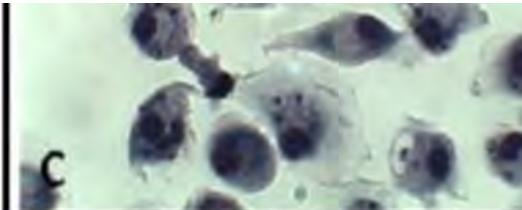
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essential oil was higher than the antioxidant activity of VAC essential oil. Finally, the biological activity, of both VAC and TS essential oils, against *L. tropica* were determined using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide, and The IC₅₀ values were 211.62 µg/ml and 101.08µg/ml, respectively. Therefore, further work is needed to identify the compound(s) responsible for the effects of VAC and TS essential oils and their correlation with *in vivo* studies.

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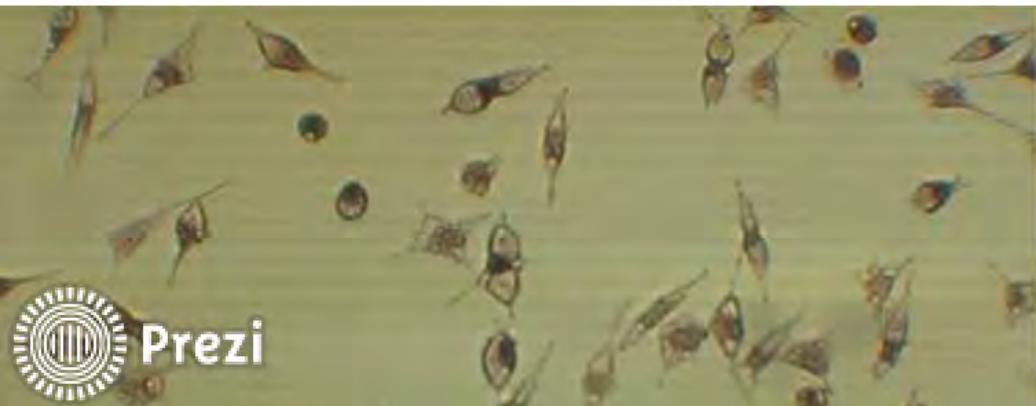


“

Question 2

How to control Leishmaniasis in Syria?

”



Stem cells

AG/SR 31 (4) 2013: 286-299 Ranad Al-Kadry et al

Application of a Modified Immunomagnetic Positive Selection Method for Isolation of Human CD34⁺ Stem/Progenitor from Cord Blood

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ABSTRACT

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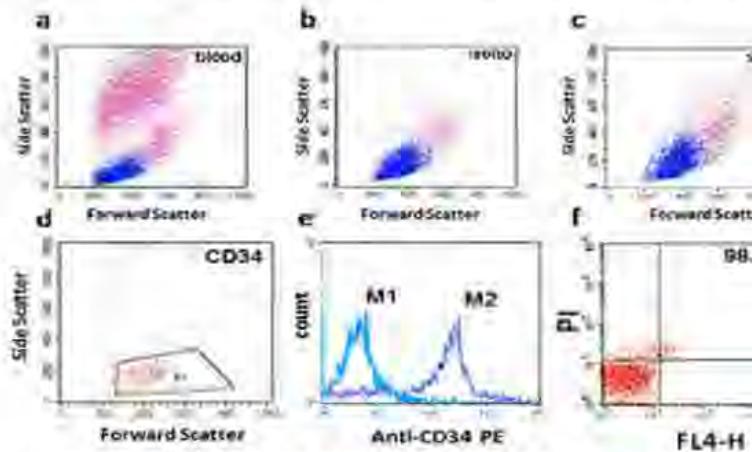
Souad Al-Okla

E-mail: soka65@yahoo.com

Umbilical cord blood (UCB) and isolated umbilical cord blood stem cells (UCBSCs) have become an alternative source of hematopoietic progenitor cells for transplantation. The aim of this study was to test the effectiveness of some modifications of human hematopoietic stem cells isolation protocols with the intention of improving the output and viability of CD34⁺ cells and progenitor subpopulations progeny that can be obtained from a sample of human umbilical cord blood. By that, we contribute to current studies on the human hematopoietic stem cells (HSCs) in order to bank UCB units suitable for basic research of very-long-term hematopoietic as well as for transplantation. Cord blood samples were transformed to buffy coat prior to the isolation of HSCs which was performed by two steps involving CD34 pre-enrichment using human cord blood CD34 positive selection kit and an Immunomagnetic cell separation, targeting CD34 surface antigen. CD34⁺ cells were immunophenotyped by four-color fluorescence, using a large panel of monoclonal antibodies (CD34/PE, CD45/FITC, CD38/APC, CD33/Per-Cy, HLA-DR/PE, CD117/APC, CD123/Per-Cy, CD105/FITC, CD56/PE, CD14/Per-Cy, CD19/Per-Cy and CD3/APC) recognizing different lineage or activation antigens. Our results showed that the percentage of CD34⁺ cells in whole human cord blood samples was 0.02% of total cells. After isolation by two-step, combining CD34 pre-enrichment and Immunomagnetic isolation, the frequency of CD34⁺ stem cells represented 0.65% among total MNCs and 83.53% among total isolated cells. This isolation lead to a purity of over 95% and viability of 98.60%. In addition, we found that the percentage of CD34⁺ cells which are CD45⁻ was 83.53%, whereas CD34⁺CD38⁻ cells comprised 21.70%. About 70.85% of isolated CD34⁺ cells were characterized by the absence of human leukocyte antigen-DR (HLA-DR). Concerning the CD117, CD33, CD123 and CD105 antigen which characterize true stem cells, we found a high expression percentage among isolated UCBSC CD34⁺ cells (81.26%, 57.14%, 47.45%, 58.52% for CD117, CD33, CD123 and CD105, respectively), while a very small number displayed markers of advanced myeloid commitment, such as CD14 (Myeloid lineage, 0.7%) and CD56 (NK-cell lineage, 4.48%), or those of lymphoid differentiation: CD3 (T-cell lineage, 5.22%), and CD19 (B-cell lineage, 1.76%). After testing 12 samples of cord blood using modified positive magnetic isolation technique, no variations in subpopulations were observed from sample to sample. We conclude that our modified technique enabled us to obtain an important proportion of primitive hematopoietic progenitors, as suggested by

الخلوية التي لا تحمل الواسمة CD34، ومن الأشلاء الخلوية، والحاصل على نسبة مرتفعة من الخلايا الجذعية CD34⁺. كما يبيّن نتائج تقييم المجموعة الخلوية CD34⁺ أن الطريقة المقترنة في هذه الدراسة تؤدي إلى الحصول على خلايا CD34⁺ عاليّة جداً بلغت قيمتها 95.53 %. ويشير التجزي R1 في (الشكل 2, d) إلى المجموعة الخلوية CD34⁺. وبين (الشكل 2, e) إشارات فلورة الشاهد الاصطناعي M2 بالمقارنة مع إشارة فلورة الشاهد السليفي M1، كما استثنى صياغ PT لفوري للـDNA الذي يعبر الأعضية الخلوية للخلايا الميتة بسبب الموت المبرمج، وتبين أن نسبة الخلايا CD34⁺ هي 98.60 % (الشكل 2, f).

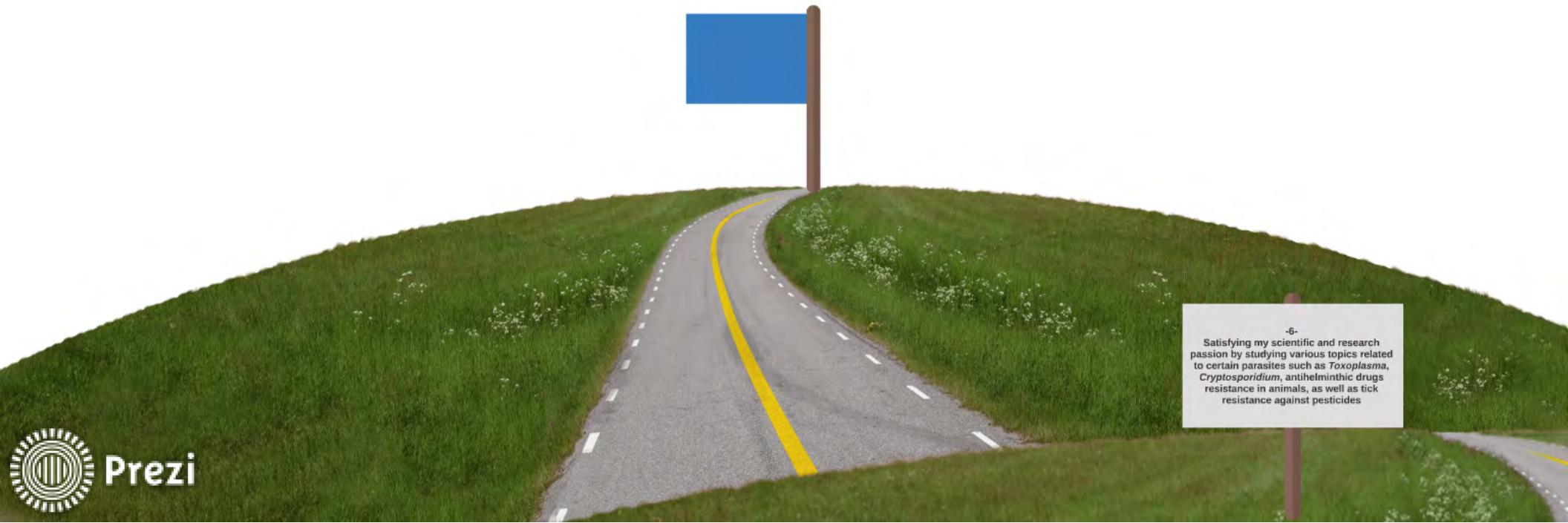
الخلايا CD34⁺ بقنية الجراثيم الخلوي بالتفتق، المختلفة من العزل (دم جيل سري، والإغاثة على الفيوكول، والعزل المغناطيسي للخلايا+ CD34)، والجموعات الخلوية على محوري التبعثر الأمامي Forward Scatter والبعثرة الجانبية Side Scatter الجنسي (blood)، هذه المراحل: دم جيل سري (blood)، الخلايا على الفيوكول (mono)، المعلق الخلوي المهمel على عمود المغناطيس (super)، والخلايا المتقدمة T الناتجين (CD34⁺). تبيّن في (الشكل 2, d,e,f) أصل العزل المتقدمة التخلص من العديد من الأنماط.



بيانات بيئية نطاقي على محوري التبعثر FCS و SSC (a) (b) (c) (d) (e) (f) خلايا جذعية المؤذنة الدم CD34 خلال مراحل العزل (أ) دم الجيل السري / (ب) الخلايا وحيطة البراءة بعد الإغاثة الأولى والوصول على الفيوكول / (ج) المعلق الخلوي الفهود بعد المغناطيس / (د) الخلايا المغناطيسية / (أ) تمشي سفر فرامي لكل من إشارة فلورة الشاهد السليفي M1 وإشارة لاجامي M2 بعد حضن الخلايا المغزولة مع ضد-ضفت CD34 سفلور / (ج) تمشي بياني تقطي بين النسبة المئوية للخلايا باستخدام الصياغ PT المتفقون

هذه التحليل الكمي للخلايا الجذعية (mono) إلى CD34⁺ خلايا بعد التيد على الفيوكول والإغاث الأولي (%) 0.65 بينما احتوى المعلق الخلوي المهمel (super) بعد العزل المناعي المغناطيسي فقط 0.27 % ووصل المردود الخلوي للخلايا CD34⁺ المغزولة مغناطيسياً (CD34) إلى 83.53 % وبمقابلة بلغت 95.53 % وحيوية قدرت بـ 98.60 % (الشكل 2, a,b,c,d,e,f).

GOAL



-6-
Satisfying my scientific and research
passion by studying various topics related
to certain parasites such as *Toxoplasma*,
Cryptosporidium, antihelminthic drugs
resistance in animals, as well as tick
resistance against pesticides

**Move toward
your goals**

-1-
Gain all possible
experience

-2-

Follow up all new in the field of
parasitology and molecular
biology, and gain the ability to
understand what is happening
around us in this domain

-1-

**Gain all possible
experience**

-2-

**Follow up all new in the field of
parasitology and molecular
biology, and gain the ability to
understand what is happening
around us in this domain**

-3-

Building a network of relationships within Syria among interested people, and also establishing another effective network with interested colleagues in the Middle East and neighboring countries, with research centers in the world and developed countries.



B
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-4-

**To contribute effectively
to the development of
research plans in Syria
and to start them
correctly**

-5-

**Make use of all the internal
and external networks in
training and start important
research**

-6-

Satisfying my scientific and research passion by studying various topics related to certain parasites such as *Toxoplasma*, *Cryptosporidium*, antihelminthic drugs resistance in animals, as well as tick resistance against pesticides

SUCCESS



THE PROJECTS

Lives In



Hama University + Damascus University

Experience and Skills



- Fecal And blood examination for parasitological diagnosis.
- Diagnosis and identification of ectoparasites.
- Identification of ticks species.
- Identification of Gastro-intestinal helminthes from ruminants and other domestic animals and birds.
- Good knowledge of some statistical and epidemiological programs and tools.
- PCR test and it's applications.
- management of broiler grand parents and breeder flocks.

Data



I can Help for any Data needed or Scientific information from Syria (man+animal), and may samples .

Photos



Project 1

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Evaluation of Protective Immunity against *Eimeria tenella* Infection in Broiler Chickens Induced by Immunization with Some Recombinant Proteins



Project 2

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Idintification of Ticks Species in Ruminants of Syria



***Hyalomma* spp.**

***Rhipicephalus* spp.**

Project 3

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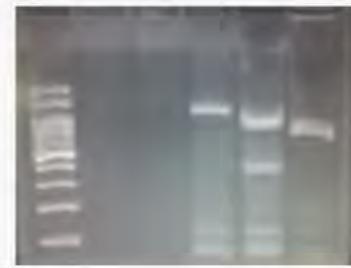
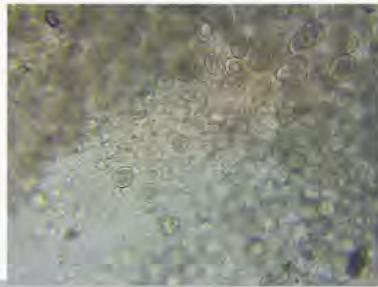
Isolation and genotyping of Cryptosporidium spp. by PCR-RFLP Analysis

RE PROJECTS

Project 1

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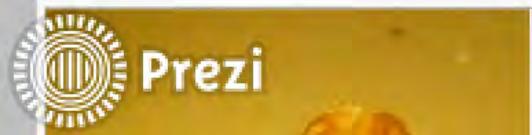
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Project 2

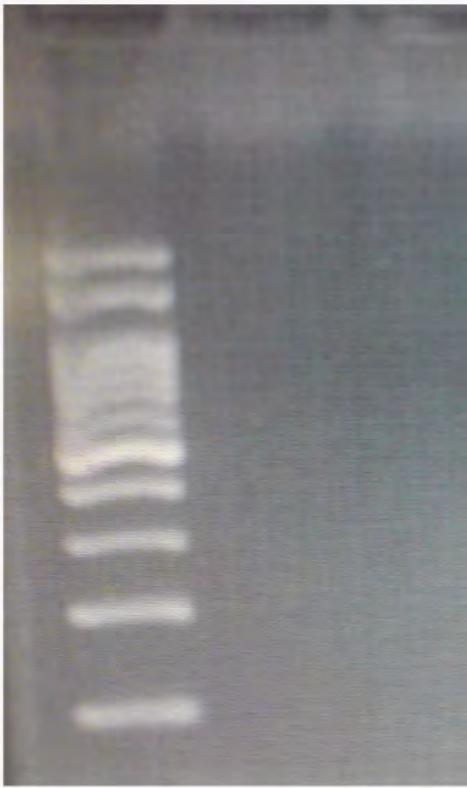
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Identification of Ticks Species in Ruminants of Syria

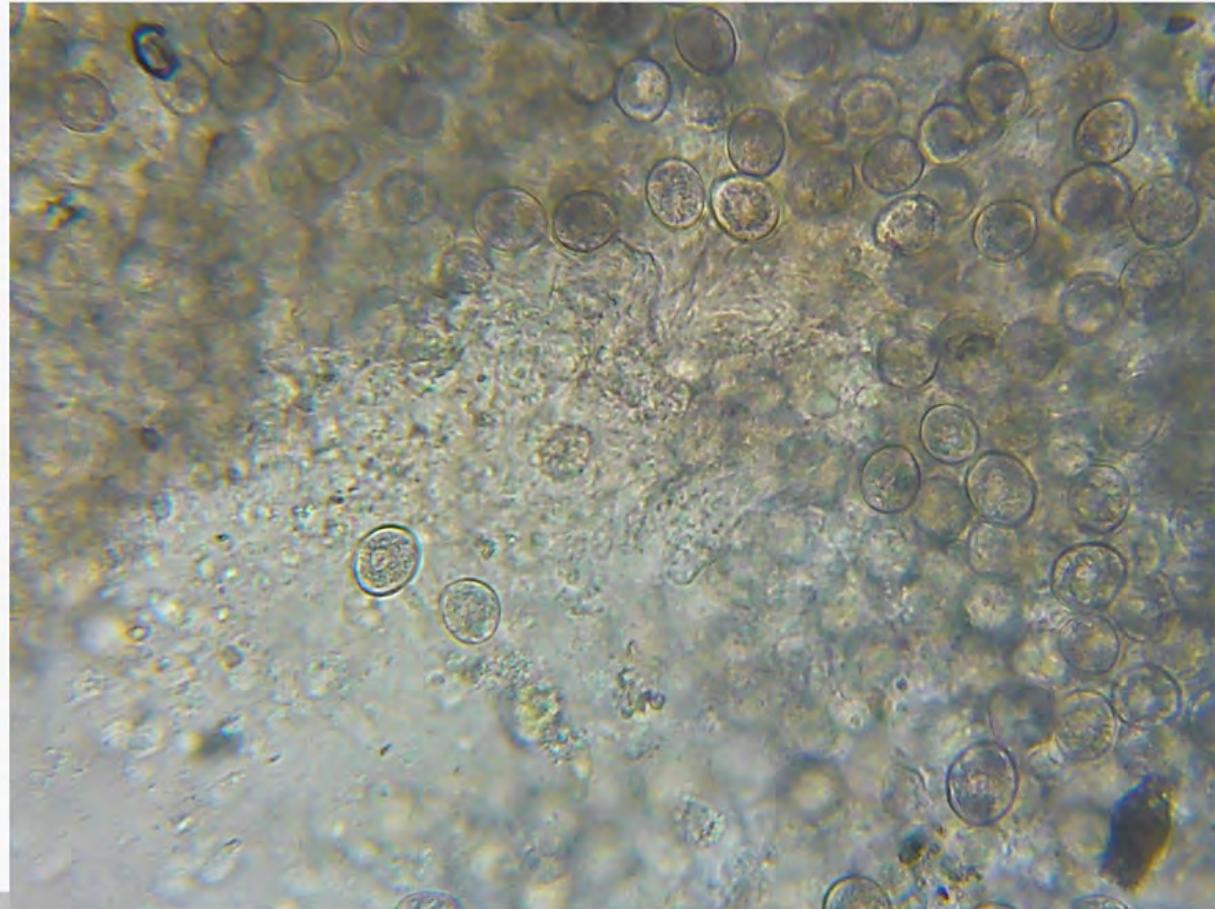


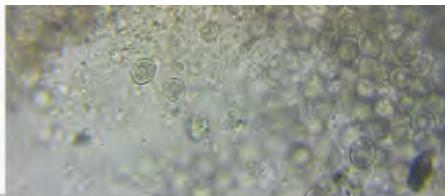
***Hyalomma* spp.**

against *Escherichia coli* infection in broiler chickens by vaccination with Some Recombinant



Irregular Chickens Induced by Ins





Project 2

like 77 comment 0 share

Identification of Ticks Species in Ruminants of Syria



Hyalomma spp.

Rhipicephalus spp.

Project 3

like 333 comment 123 share



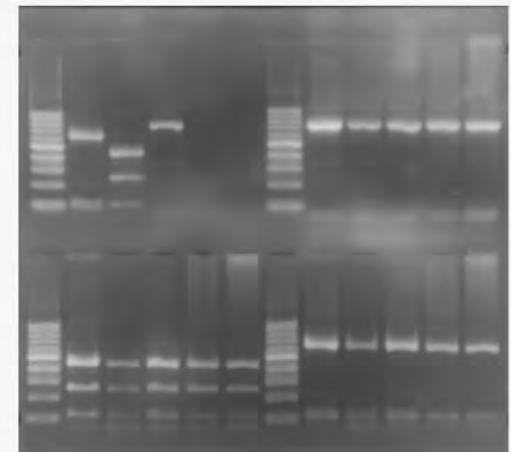
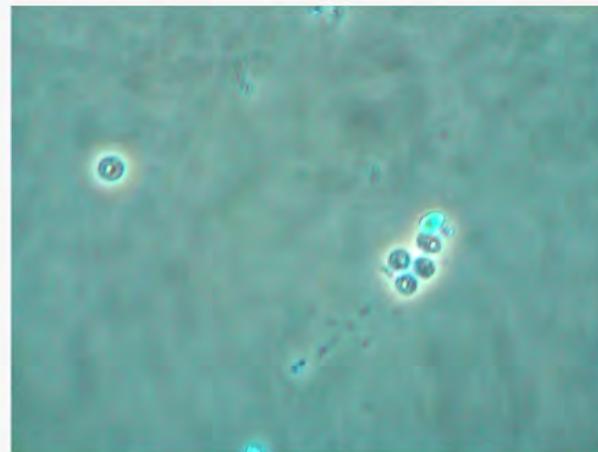
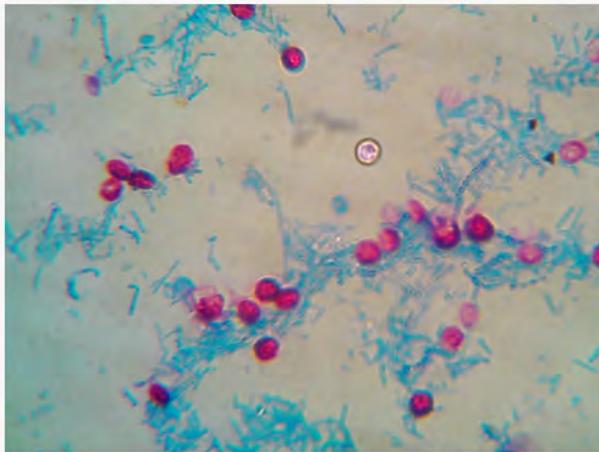
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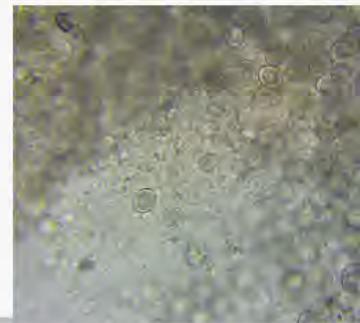
Project 3

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Isolation and genotyping of Cryptosporidium spp. by PCR-RFLP Analysis



Evaluation of Protective Broiler Chickens Induced Proteins



Experience and Skills



- Fecal And blood examination for parasitological diagnosis.
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Project 2

Idintification of Ticks



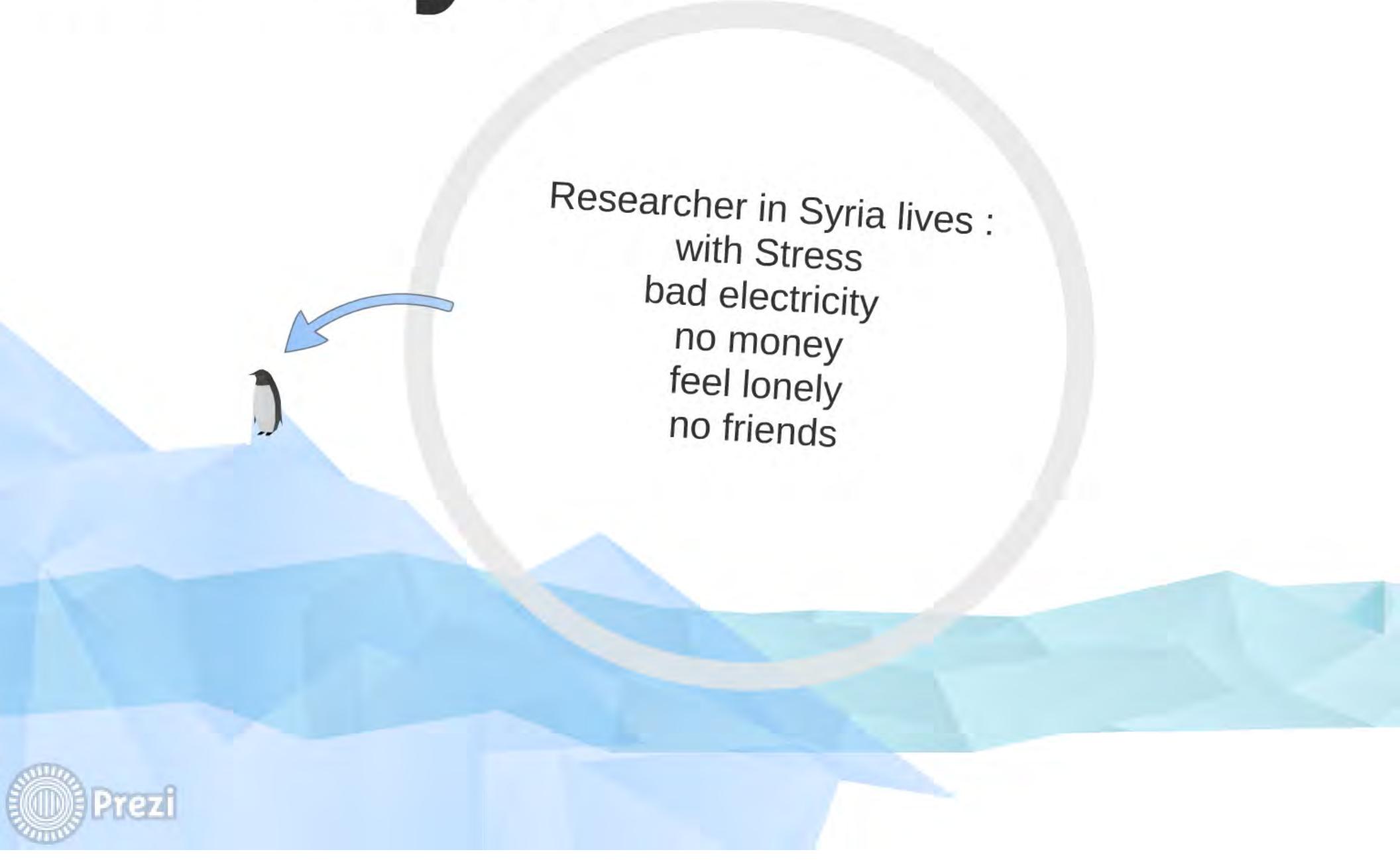
Hyal

Rhipi



Difficulties in the Area

s in Syria



Researcher in Syria lives :
with Stress
bad electricity
no money
feel lonely
no friends

Economic decline and poverty



dangerous condition of
working

no trained staff

no enough resources

Dangerous mobility

**The escape of
trained persons
outside Syria for
many reasons**





lack of communication and exchange of experiences with international universities

so hard to repair or buy devices and materials.





Economic sanctions and ban





*But there are always
solutions, and you have
to get around the
mountain to get past it*



Before the Crisis and After

Many thanks to all MeBoP Team

and I want to say I'm so grateful to:

Dr.Lilach

Prof. Dr. Christian Leumann

Eva

Dr.Ellen

Dr. Isabel

Meagan

Linka



You spent a lot of time and effort to be here with
you